

A polyurethane film is disclosed, wherein the film is prepared from a polyurethane dispersion, the dispersion being prepared from a non-ionic polyurethane prepolymer, and the prepolymer being prepared from a polyurethane prepolymer formulation including a diisocyanate and an active hydrogen containing material. The dispersion is formed in a two or more step process wherein, in a first step the prepolymer is formed and, in a subsequent step, an aqueous dispersion of the prepolymer is formed, in the presence of an anionic surfactant, both steps occurring in the substantial absence of an organic solvent. A process for preparing the film and a dispersion useful in making the film are also disclosed. The present invention substantially avoids many of the handling concerns with the dispersions and films of the prior art. Moreover, the present invention is suitable for use in applications such as, for example, medical applications, including gloves, condoms, medical bags, and catheters.